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## AN EQUAL OPPORTUNITY EMPLOYER



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1. *Chlorophyll a* (Chl a) is the primary photosynthetic pigment in most plants and algae. It is a green pigment that absorbs light energy in the blue and red regions of the visible spectrum. Chl a is essential for the light-dependent reactions of photosynthesis, where it converts light energy into chemical energy in the form of ATP and NADPH.

2. *Chlorophyll b* (Chl b) is an accessory pigment found in green plants and algae. It is a yellow-green pigment that absorbs light energy in the blue and red regions of the visible spectrum. Chl b transfers the absorbed energy to Chl a for use in photosynthesis.

3. *Carotenoids* are a group of pigments found in plants and algae. They include carotenes (orange pigments) and xanthophylls (yellow pigments). Carotenoids absorb light energy in the blue and green regions of the visible spectrum and transfer the energy to Chl a. They also play a role in protecting the photosynthetic apparatus from damage by reactive oxygen species.

4. *Anthocyanins* are water-soluble pigments found in plants, particularly in the vacuoles of epidermal cells. They are responsible for the red, purple, and blue colors in many flowers, fruits, and leaves. Anthocyanins are thought to have a protective role against UV radiation and oxidative stress.

5. *Flavonoids* are a large class of secondary metabolites found in plants. They include flavones, flavonols, and flavanols. Flavonoids are responsible for a wide range of colors in plants, including yellow, orange, and red. They also have various biological functions, such as acting as antioxidants and signaling molecules.

6. *Phenolics* are a group of compounds found in plants, including phenols and polyphenols. They are responsible for the brown and black colors in many plants, particularly in the bark and wood. Phenolics have various biological functions, such as acting as antioxidants and defense compounds against herbivores and pathogens.

7. *Lipids* are a group of molecules that are insoluble in water but soluble in organic solvents. They include fats, oils, and waxes. Lipids are essential for the structure and function of cell membranes and are also involved in energy storage and signaling.

8. *Proteins* are large molecules made up of amino acids. They are essential for the structure and function of cells and are involved in a wide range of biological processes, including metabolism, signaling, and defense.

9. *Carbohydrates* are a group of molecules that are made up of carbon, hydrogen, and oxygen. They include sugars, starches, and cellulose. Carbohydrates are essential for energy storage and are also involved in cell structure and signaling.

10. *Nucleic acids* are a group of molecules that are made up of carbon, hydrogen, oxygen, nitrogen, and phosphorus. They include DNA and RNA. Nucleic acids are essential for the storage and transmission of genetic information and are involved in protein synthesis.



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/049,420	05/21/2002	James Mark Carson England	1652-13

**CONFIRMATION NO. 1046**

**POWER OF ATTORNEY NOTICE**



Date Mailed: 01/28/2009

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**NOTICE REGARDING CHANGE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 01/14/2009.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/jtfitzhugh sr/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101